

CALL FOR PAPERS

NUMTA2019 Philosophy of Mathematics Stream: Applicability, Practice, Numerical Computations.

June 15 – 21, 2019

TH Le Castella Village, Crotone, Italy

The application of mathematics is pervasive in current philosophical discussions but is often not examined in an autonomous way. Traditionally, it has been tied to indispensability arguments and thus subordinated to ontological questions concerning mathematical entities. This focus has directed attention especially to situations in which abstract resources coming from the independent career of mathematical enquiry appear to be unexpectedly effective in application. Far less work has been devoted to the application of mathematics as a particular kind of historically situated practice that has to adapt or create formal instruments adequate to its purposes, face and seek to overcome distinctive obstructions opposed by its empirical materials, and promote interactions with an experimental environment, as opposed to accurately portraying a reality already complete without it. The Philosophy of Mathematics Stream within the international conference *NUMTA2019 Numerical Computations: Theory and Algorithms* will be devoted to discussing these and any other issues of philosophical significance related to the practice of applied mathematics. Topics of interest include the following:

- philosophical lessons coming from the practice of applied mathematics;
- concept formation and the growth of knowledge in applied mathematics;
- the role of mathematics in model-based scientific enquiry;
- the relation between advances in applied mathematics and the foundations of mathematics;
- applied mathematics in the context of contemporary philosophy of mathematical practice;
- the role of infinitely small and infinitely large numbers in the

application of mathematics;
- historical conceptions of the applicability of mathematics.

To submit contributed papers, please follow the instructions on the 'Abstract Submission' page from the Official Conference Website <http://si.dimes.unical.it/~yaro/numta2019/index.php> .
The deadline for one-page abstract submission is **March 18th, 2019**.

Extended abstracts will be considered for inclusion in an issue of *Lecture Notes in Computer Science Proceedings*. Authors of selected presentations will be invited to submit full papers to special issues of one of the following three journals: *Applied Mathematics and Computation*, *Journal of Computational and Applied Mathematics*, *Soft Computing*. Separate publication of selected philosophical proceedings is under discussion.

Invited Speakers

Anouk Barberousse (Lille 1 and IHPST)
Mirna Dzamonja (UEA, Paris 1 and IHPST)
Nicolas Fillion (Simon Fraser University, Burnaby)
Gabriele Lolli (Scuola Normale Superiore, Pisa)
Matthew Parker (London School of Economics)